



Cassel Salpeter & Co.
INVESTMENT BANKING

**Aviation Investment Banking
Q4 2020 & Year-End Update**

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Relevant Experience:

- Investment banking for over 24 years

Representative Assignments:



Bankruptcy
\$363 Sale
Airlines



Bankruptcy
\$363 Sale
Airlines



M&A Sale
MRO



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Relevant Experience:

- Investment banking for over 24 years

Representative Assignments:



Valuation
MRO



Valuation
MRO



Solvency Opinion
Freight & Logistics



Valuation
MRO



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Relevant Experience:

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Representative Assignments:



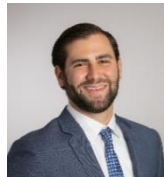
Capital Raise
Aviation Services



Capital Raise
MRO



Capital Raise
Distribution



Philip Cassel
Managing Director



Ira Leiderman
Managing Director



Deborah Aghib
Managing Director



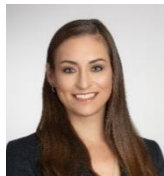
Margery Fischbein
Managing Director



Marcus Wai
Vice President



Chris Mansueto
Vice President



Laura Salpeter
Vice President



Julian Astrove
Associate



Edward Kropf
Associate



Tahz Rashid
Analyst

Includes projects by our professionals at prior firms.

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AEROSPACE & DEFENSE REVIEW

II

M&A & PRIVATE PLACEMENTS REVIEW

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PUBLIC MARKETS REVIEW

The aviation industry faced extraordinary challenges in 2020. As COVID-19 spread, the travel industry was among the hardest-hit as governments closed borders and businesses went virtual. With 2020 in the rear-view mirror, we want to revisit our 2020 updates and theses along with some of the aviation industry's most notable events of the year:

- In our Q1-2020 update, we underscored the COVID-19 pandemic as a “grey rhino” (defined as a highly probable but neglected threat) that plunged the global airline industry into an unprecedented crisis, as airline bookings nosedived in response to global shelter-in-place regulations and business restrictions on travel. The COVID repercussions were rapid and disastrous, as revenue and cash flow plunged for most airlines, original equipment manufacturers (OEMs), and their suppliers in the aircraft production and related travel services ecosystem. The CARES Act provided a much-needed liquidity lifeline, but the quarter closed with unparalleled fear and uncertainty.
- In our Q2-2020 update, we highlighted how the COVID-19 pandemic infected the entire aviation ecosystem. With the airlines significantly grounded and financially fragile (passenger revenues projected to be more than one-third less than in 2019), the carnage reverberated throughout the aviation ecosystem from OEM manufacturers and their Tier 1-2 suppliers, to MROs and the aftermarket suppliers, to airports and their personnel and contractors, and throughout the massive related travel and tourism industries.
- In our Q3-2020 update, we suggested that the recovery in the aviation industry will be a slow “U” and continue to be painful for most of its participants. The third quarter showed slight improvement over the second quarter, with most industry metrics improving slightly, but we believed we were in the beginning of a slow “U” rather than a quicker “V” recovery cycle, and without additional global stimulus, that the industry should continue to brace for more airline failures, as lifelines and cash reserves are depleted.

For this **4th Quarter and Year-End**, we believe that the trends continue to be worrisome, despite the positive Thanksgiving and Christmas/New Year holiday travel bumps. Although 2021 will offer a vast improvement, with the aggressive rollout of the various COVID vaccines, we continue to believe that the full recovery of the aviation ecosystem will be pushed out to 2022-2023. Below are some final tallies for 2020 from the International Air Transport Association (IATA);

- As the current crisis continues, IATA announced a worsening forecast for the airline industry's losses in 2020. IATA's recent economic performance report of the airline industry predicted that airlines are set to finish 2020 with \$118 billion in losses. However, all is not doom and gloom, as the association predicted that losses could be cut to \$38 billion in 2021.
- The COVID-19 crisis challenged the very survival of the industry in 2020. In the face of a half trillion-dollar revenue drop (from \$838 billion in 2019 to \$328 billion) airlines cut costs by \$365 billion (from \$795 billion in 2019 to \$430 billion in 2020). “The history books will record 2020 as the industry's worst financial year, bar none. Airlines cut expenses by an average of a billion dollars a day over 2020 and will still rack up unprecedented losses. Were it not for the \$173 billion in financial support by governments we would have seen bankruptcies on a massive scale,” said Alexandre de Juniac, IATA's Director General and CEO.
- Aircraft manufacturers are predicted to complete the delivery of 800 new aircraft before the end of the year. That is approximately half of all planned deliveries at the beginning of 2020. IATA predicts that in 2021, airlines will take delivery of 1,302 new aircraft, which is close to the number in 2019, although additional delivery delays and order cancellations are to be expected.

January

The global aviation industry was healthy and untouched by the **COVID-19 virus** that was infecting Wuhan, China and would soon be unleashed on the rest of the world...

February

The Singapore Airshow was disrupted, just as COVID's spread was being recognized; COMAC, along with nine other aircraft manufacturers, were denied entry to the event, as China was the epicenter of the outbreak at the time. Textron, Gulfstream, and Bombardier also withdrew from the airshow.

Cathay Pacific subsequently suspended 90% of its flights to Mainland China (first to act).

March

Flybe, the U.K. regional carrier, could not sustain itself following a sudden drop in passenger traffic and subsequent liquidity issues, wherein it became the first casualty of the COVID pandemic when it went into Administration (Bankruptcy/ Receivership).

The developing COVID pandemic brought about the **suspension of travel** between the United States, China, and 26 European countries. U.S. domestic airlines were required to cut nearly all flights between two of the most interconnected regions in the world.

April

The U.S. Government passed the **Coronavirus Aid, Relief, and Economic Security (CARES) Act**, which included hundreds of billions of dollars for airlines and the related aviation ecosystem to keep them afloat. Among the significant terms was a requirement to keep all workers employed through the end of September 2020 and to continue serving all destinations.

May

Airbus reached a milestone with its new U.S. production facility for the A220 in Mobile, AL. As the stronger airlines continued to consolidate their fleets, the Airbus A220 became one of the major winners in 2020 due to its size and proficiency.

Boeing announced plans to cut 12,000 jobs, approx. 10% of its global workforce, by the end of 2020 as aircraft deliveries plummeted during the COVID pandemic. On a brighter note, Boeing reiterated that its defense business was strong and steady.

June

British Airways implemented controversial cost-cutting measures, viewed as draconian at the time, wherein they threatened to fire and then rehire their pilots under new contracts. This developed as the pilot union was negotiating with the airline, which announced plans to cut up to 30% of its workforce.

With the beginning of the typically lucrative summer travel season, the major U.S.-based airlines didn't fare well. Carriers operated at just 65% of domestic flights year-over-year, with bright spots being **Spirit** and **Hawaiian Air**.

July

JetBlue became the first major U.S. airline to defer furloughs. It reached an agreement with its pilot union to keep all pilots on payroll until at least May 2021. Delta joined a growing number of legacy airlines prepared to furlough workers after the CARES Act expired on October 31st.

Aeromexico (Grupo AeroMexico SAB), voluntarily opted to restructure via Chapter 11 bankruptcy process. This came as other Latin American carriers struggled to restructure themselves in the wake of the epidemic.

August

Virgin Atlantic became one of the biggest brands to declare bankruptcy due to the pandemic, announcing plans to lay off thousands of workers and retire its 747s, all while applying for government funding.

ExpressJet was the largest U.S. casualty of the pandemic. The regional carrier, which had 2,500 staff and over 100 aircraft when it shut down, saw its contract with United Airlines terminated due to cost-cutting measures. The airline was seeking to stay in business, but to date has ceased operations.

September

El Al Israel Airlines flew a historic flight from Tel Aviv to Abu Dhabi through Saudi Arabian airspace for the first time since 1972, as a result of peace deals struck between Israel and several of its neighbors.

The **A380** era witnessed the beginning of the end when Airbus completed production on its final A380 Superjumbo. This news, coupled with Boeing's decision to stop passenger **747** production, marks a growing shift away from big planes to smaller, more efficient aircraft that are easier to fill and cheaper to operate.

October

Breeze, the newest project of JetBlue and Azul founder David Neeleman, raised \$83 million ahead of its 2021 launch. It will start operations with Embraer aircraft from Azul before transitioning to new Airbus A220 jets.

Berlin's beleaguered new airport finally opened its doors at the end of October (nearly a decade behind schedule, \$5 billion over budget). **Berlin-Brandenburg Willy Brandt Airport (BER)** was reported to have already been granted state aid before transporting a single passenger.

November

Boeing's 737 MAX was green-lighted by the FAA to resume service after a 20-month-long grounding and countless hardware and software changes. The FAA became the first global regulator to reapprove the Boeing 737 MAX for regular commercial services, with EASA approval expected in early 2021.

Commercial Aircraft Corporation of China (COMAC), the Chinese aircraft manufacturer, received the type inspection authorization for its C919 narrow body, allowing it to move to the final phase of flight testing and certification.

December

Brazil's GOL Airlines became the first airline to resume commercial flights with the troubled Boeing 737 MAX after the type was recertified. American Airlines followed as the first U.S. carrier to fly the jet again.

Ryanair (Dublin based) became the first airline to place an order for new Boeing 737 MAX aircraft, since the aircraft was ungrounded by the FAA in mid-November. The order for 75 planes brought the airline's outstanding order total to 210 of the newest Boeing narrow body.

The commercial aviation industry went through what arguably was its most dramatic downturn since inception. The entire global aviation ecosystem was grounded, with passenger demand drying up following the rapid spread of COVID-19. As vaccines begin to roll out, we can now see light at the end of the tunnel (and it's not the proverbial train heading towards us). For airlines and the overall aviation ecosystem, 2020 was one to put in the rear-view mirror, with the skies not likely to be the same anytime soon. Various legendary aircraft may not survive the mass groundings, and we should see a continued emphasis on short haul, narrow body/single aisle aircraft.

Sampling of Significant Aircraft Retirements:



Airbus A340

- **Iberia** was one of the first majors to accelerate the diminishing role of the long-haul A340 fleet, with plans for a consistent pace to coincide with a 2025 retirement mark.
- **Virgin Atlantic** was the first to remove the A340 fleet with the final three A340-600s released from the fleet in March 2020.
- **Scandinavian Airlines** said farewell to the 'A340 Astrid Viking', moving to rely on Airbus A330s and A350s to power the remainder of its long-haul operations for this decade.



Boeing 747

- **Qantas, British Airways, Virgin Atlantic, and KLM Royal Dutch Airlines** have all added themselves to the list of airlines accelerating the retirement of the beloved 747-400 across the globe.
- **Delta** notably became the last U.S. airline to retire the 747, ending 47 years of service.



Boeing 767

- **American Airlines** was the first airline to part ways with its 767 fleet, which had diminished from over 100 aircraft to just a handful as the company was favoring newer Airbus A321s and Boeing 787s to pick up its 767 routes. **Air Canada** and **WestJet** followed suit.
- **Lufthansa Group** has hinted that it could continue to dispose of heavy aircraft including the Austrian operated 767s and the German-based Airbus A380.



Boeing 777

- **Japan Airlines and All Nippon Airways** have talked about accelerating the retirement of the 777-200 from domestic markets, with JAL specifically citing a 2023 departure.
- **Lufthansa Group** may dispose of the 777s in their fleet along with the other heavy aircrafts that they plan to retire in coming months.

Sources of information: AirlineGeeks, WSJ, IATA, CNBC.

I AEROSPACE & DEFENSE REVIEW

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III PUBLIC MARKETS REVIEW

SELECTED M&A TRANSACTIONS

Selected Transactions Review											
(\$ in millions)											
Transaction				Enterprise Value	Metrics			Valuation Benchmarks			
Date		Target	Acquirer		Target Trailing Twelve Months (TTM)			Implied Enterprise Value (EV) /			
Closed	Anncd.				Revenue	EBITDA %	EBIT %	Revenue	EBITDA	EBIT	
2020 4th Quarter M&A Transactions											
30-Dec-20	7-Dec-20	Physical Optics Corporation, Inc.	Mercury Systems, Inc.	\$ 310.0	na	7.7%	na	na	13.00x	na	
23-Dec-20	28-Dec-20	CTS Engines, LLC	J.F. Lehman and Company, LLC	na	na	na	na	na	na	na	
22-Dec-20	22-Dec-20	AeroSpares, Inc.	Jet Parts Engineering, LLC	na	na	na	na	na	na	na	
21-Dec-20	23-Dec-20	H.&S. Swansons' Tool Company (nka:H&S SWANSON FAMILY HOLDINGS INC.)	ARCH Global Precision LLC	na	na	na	na	na	na	na	
21-Dec-20	21-Dec-20	Genesys Aerosystems Group, Inc.	Moog Inc.	\$ 77.7	na	na	na	na	na	na	
21-Dec-20	10-Nov-20	Blue Canyon Technologies, Inc.	Raytheon Technologies Corporation	na	na	na	na	na	na	na	
15-Dec-20	17-Nov-20	Impossible Aerospace Corp	Alpine 4 Technologies, Ltd.	na	na	na	na	na	na	na	
4-Dec-20	4-Dec-20	Raydon Corporation	By Light Professional IT Services, Inc.	na	na	na	na	na	na	na	
2-Dec-20	2-Dec-20	Altavian, Inc.	FLIR Systems, Inc.	na	na	na	na	na	na	na	
30-Nov-20	13-Nov-20	Toll Aviation Engineering Pty Ltd	Alliance Aviation Services Limited	na	na	na	na	na	na	na	
25-Nov-20	9-Oct-20	i3 Hypersonics Portfolio	Lockheed Martin Corporation	na	na	na	na	na	na	na	
20-Nov-20	20-Nov-20	5-D Systems, Inc.	Kratos Defense & Security Solutions, Inc.	na	na	na	na	na	na	na	
20-Nov-20	3-Jul-20	OneWeb	Hughes Network Systems, LLC; Bharti Global Limited	\$ 1,050.0	na	na	na	na	na	na	
19-Nov-20	29-Oct-20	Braxton Science & Technology Group, LLC	Parsons Government Services, Inc.	\$ 300.0	na	na	na	na	na	na	
16-Nov-20	16-Nov-20	Flight Simulation Company B.V.	CAE Inc.	na	na	na	na	na	na	na	
30-Oct-20	31-Oct-19	Short Brothers plc/Bombardier Aerospace North Africa SAS/Assets Of Business In Dallas	Spirit AeroSystems, Inc.; Spirit Aerosystems Global Holdings Limited	\$ 865.0	na	na	na	na	na	na	
15-Oct-20	15-Oct-20	Business assets of Ballard Unmanned Systems	Honeywell International Inc.	na	na	na	na	na	na	na	
12-Oct-20	12-Oct-20	Seanair Machine Company, Inc.	AE Industrial Partners, LP; Broadtree Partners; AE Industrial Partners Structured Solutions I, LP	na	na	na	na	na	na	na	
6-Oct-20	6-Oct-20	Larkin Precision Machining, Inc.	IMG Companies, LLC	na	na	na	na	na	na	na	
5-Oct-20	5-Oct-20	IKHANA Group LLC	AEVEX Aerospace, LLC	na	na	na	na	na	na	na	
na	23-Dec-20	Sparton Corporation	Elbit Systems of America, LLC	\$ 380.0	na	na	na	na	na	na	
na	20-Dec-20	Aerojet Rocketdyne Holdings, Inc.	Lockheed Martin Corporation	\$ 4,072.4	\$ 2,039.2	14.0%	na	2.00x	14.27x	20.4x	
na	7-Dec-20	Federal IT and Mission Support Services Business of Northrop Grumman Corporation	Peraton Corporation	\$ 3,400.0	na	na	na	na	na	na	
na	7-Dec-20	Civil Nuclear Instrumentation and Control business of Rolls-Royce Holdings PLC	Framatome	na	na	na	na	na	na	na	
					na	na	na				
				Mean	\$ 1,306.9	\$ 2,039.2	10.8%	na	2.00x	13.64x	20.4x
				Median	\$ 622.5	\$ 2,039.2	10.8%	na	2.00x	13.64x	20.4x

Sources of Information: S&P Capital IQ and Pitchbook.

Selected Private Placements Review

(\$ in millions)

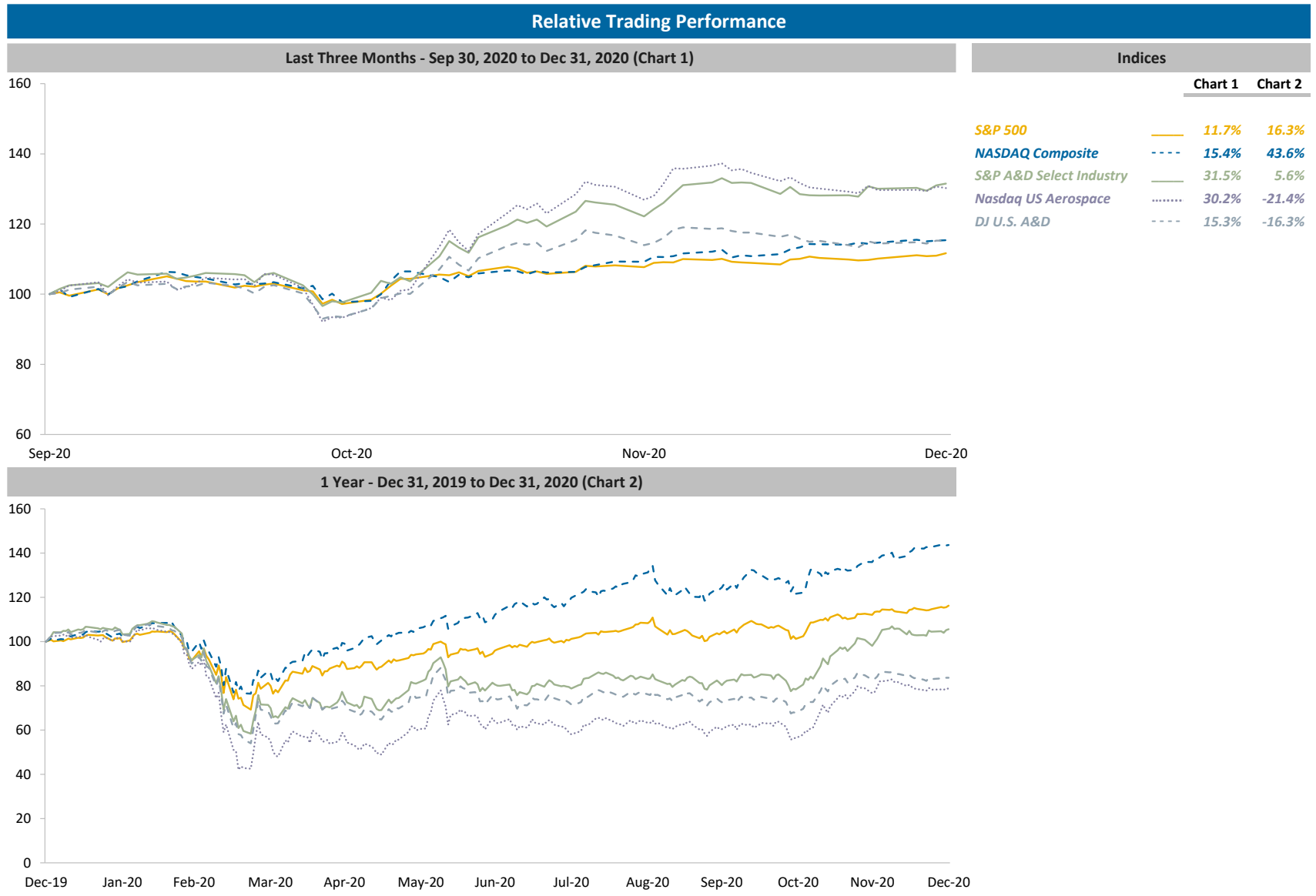
Close Date	Target	Investors	Raise	Round Type	Round Number
2020 4th Quarter Private Placements					
28-Dec-20	Orizon Aerostructures Inc.	AIP, LLC; American Industrial Partners Capital Fund VII, L.P.	\$ 50.0	Growth	1
21-Dec-20	Dive Technologies Inc.	Mill Town Capital	4.0	Venture	3
17-Dec-20	Magdrive Limited	Founders Fund, Inc.; Entrepreneur First Operations Limited; 7 Percent Ventures Limited; Luminous Ventures Limited	1.9	Seed	1
15-Dec-20	Iris Automation Inc.	Bessemer Venture Partners; OCA Venture Partners, LLC; Verizon Ventures; Bee Partners; Sony Innovation Fund	13.0	Series B	5
15-Dec-20	Boom Technology, Inc.	WRVI Capital	50.0	Growth	8
9-Dec-20	Isar Aerospace Technologies GmbH	Earlybird Venture Capital GmbH & Co. KG; HV Capital Adviser GmbH; Unternehmertum Venture Capital Partners GmbH; Lakestar Advisors GmbH; Airbus Ventures; Vsquared Ventures Management GmbH	90.6	Series B	3
9-Dec-20	Orbital Express Launch Limited	Malaysian Technology Development Corporation Sdn Bhd; Octopus Ventures Ltd.; High-Tech Gründerfonds Management GmbH; DEIMOS Space S.L.U.; Business Growth Fund; Heartcore Capital	21.5	Growth	3
8-Dec-20	Varda Space industries, Inc.	Lux Capital Management, LLC; Founders Fund, Inc.; Fifty Years Industries, LLC; Also Capital	9.0	Seed	1
2-Dec-20	Space Perspective Inc.	Base Ventures; 1517 Fund; Schox Investments, LLC; Kirenaga Partners; Prime Movers Lab; SpaceFund; Central Florida Tech Fund; Assure Fund Management II LLC; E2MC Ventures 1, LLC	7.0	Seed	1
23-Nov-20	Relativity Space, Inc.	General Catalyst Group Management, LLC; Allen & Company Inc., Investment Arm; Fidelity Management & Research Company LLC; Tiger Global Management LLC; Senator Investment Group LP; ICONIQ Capital, LLC; Playground Global, LLC; 3L Capital; Tribe Capital; Bond Capital Management LP; XN Capital; K5 Global, Investment Arm	489.8	Series D	7
2-Dec-20	ZeroAvia, Inc.	Shell Ventures; Horizons Ventures Limited; Amazon.com Inc., Investment Arm; The Ecosystem Integrity Fund; Summa Equity; Breakthrough Energy Ventures, LLC; The Climate Pledge Fund	23.5	Series A	1
29-Oct-20	Hermeus Corporation	Canaan Partners; Khosla Ventures, LLC; Rise of the Rest; Rise Of The Rest Seed Fund, LP; Bling Capital	16.0	Series A	2
17-Dec-20	Epirus, Inc.	Bedrock Capital Partners; L3Harris Technologies, Inc.; Greenspring Associates, Inc.; Eight Partners VC, LLC; Fathom Capital; Piedmont Capital Investments LLC	67.5	Series B	2
		<i>Mean</i>	\$ 64.9		
		<i>Median</i>	\$ 21.5		

Sources of information: S&P Capital IQ and Pitchbook.

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Sources of information: S&P Capital IQ.

SELECTED PUBLIC COMPANY TRADING DATA

Selected Companies Review

(\$ in thousands, except per security)

Company	Ticker	Market Statistics			Metrics				Valuation Benchmarks				
		Closing Price	% of 52-week	Enterprise	Revenue	EBITDA	EBITDA	EBITDA	EV / Revenue		EV / EBITDA		
		31-Dec-20	High-Low	Value	LTM	LTM	LTM Margin	2022 E Growth	LTM	2021 E	LTM	2021 E	
Aerostructures & Component Manufacturers													
Air Industries Group	AIRI	\$ 1.23	36.6% - 205.0%	\$ 72.1	\$ 48.9	\$ 0.2	0.5%	na	1.47x	1.11x	299.0x	10.5x	
Allegheny Technologies Incorporated	ATI	\$ 16.77	80.2% - 338.8%	3,239.8	3,342.4	280.8	8.4%	104.0%	0.97x	1.22x	11.5x	17.1x	
Astronics Corporation	ATRO	\$ 13.23	45.4% - 210.0%	573.5	586.2	41.7	7.1%	68.9%	0.98x	1.14x	13.7x	15.4x	
CPI Aerostructures, Inc.	CVU	\$ 3.83	54.7% - 297.0%	79.2	84.9	(1.2)	-1.4%	48.6%	0.93x	0.80x	na	22.6x	
Hexcel Corporation	HXL	\$ 48.49	60.2% - 197.6%	4,988.6	1,770.9	316.1	17.8%	37.1%	2.82x	3.46x	15.8x	20.6x	
Honeywell International Inc.	HON	\$ 212.70	98.2% - 210.4%	158,885.0	33,233.0	7,552.0	22.7%	9.0%	4.78x	4.67x	21.0x	19.0x	
Howmet Aerospace Inc.	HWM	\$ 28.54	83.3% - 289.2%	16,289.2	12,849.0	1,764.0	13.7%	14.7%	1.27x	2.95x	9.2x	13.6x	
Ducommun Incorporated	DCO	\$ 53.70	92.9% - 330.1%	922.8	658.1	81.0	12.3%	7.8%	1.40x	1.42x	11.4x	10.1x	
FACC AG	WBAG:FACC	\$ 10.39	65.7% - 186.6%	764.6	714.2	(10.3)	-1.4%	63.4%	1.07x	1.20x	na	20.6x	
Héroux-Devtek Inc.	TSX:HRX	\$ 11.07	65.2% - 164.7%	574.6	442.4	59.7	13.5%	6.0%	1.30x	1.30x	9.6x	8.5x	
Innovative Solutions and Support, Inc.	ISSC	\$ 6.52	79.1% - 543.3%	99.7	21.6	3.2	14.7%	na	4.62x	na	31.4x	na	
JAMCO Corporation	TSE:7408	\$ 6.01	41.0% - 108.8%	568.1	728.5	(8.0)	-1.1%	na	0.78x	na	na	na	
Kaman Corporation	KAMN	\$ 57.13	84.7% - 194.5%	1,735.4	837.0	141.4	16.9%	14.5%	2.07x	2.08x	12.3x	12.7x	
Latécoère S.A.	ENXTPA:LAT	\$ 2.48	52.3% - 198.5%	416.9	645.7	(28.3)	-4.4%	662.8%	0.65x	0.63x	na	46.9x	
Lisi S.A.	ENXTPA:FII	\$ 24.65	61.6% - 161.2%	1,605.9	1,707.6	237.7	13.9%	18.1%	0.94x	0.99x	6.8x	6.3x	
Magellan Aerospace Corporation	TSX:MAL	\$ 6.88	60.0% - 182.7%	413.9	608.7	75.5	12.4%	0.1%	0.68x	0.70x	5.5x	5.1x	
Meggitt PLC	MGGT	\$ 6.37	66.5% - 237.8%	6,321.5	2,627.5	562.0	21.4%	15.9%	2.41x	2.45x	11.2x	12.6x	
Moog Inc.	MOG.A	\$ 79.30	82.7% - 244.1%	3,528.0	2,884.6	306.6	10.6%	na	1.22x	1.24x	11.5x	11.2x	
RBC Bearings Incorporated	ROLL	\$ 179.04	96.7% - 230.6%	4,287.3	665.7	173.9	26.1%	na	6.44x	6.93x	24.7x	27.4x	
Senior plc	LSE:SNR	\$ 1.22	47.5% - 217.7%	830.8	1,163.0	99.1	8.5%	23.8%	0.71x	0.84x	8.4x	8.4x	
SIFCO Industries, Inc.	SIF	\$ 8.40	99.4% - 444.4%	91.1	113.6	9.2	8.1%	na	0.80x	na	9.9x	na	
Spirit AeroSystems Holdings, Inc.	SPR	\$ 39.09	52.0% - 285.5%	5,734.2	4,487.5	(156.1)	-3.5%	178.0%	1.28x	1.42x	na	30.2x	
Triumph Group, Inc.	TGI	\$ 12.56	48.0% - 415.9%	2,300.1	2,374.7	215.0	9.1%	20.4%	0.97x	1.37x	10.7x	11.0x	
TransDigm Group Incorporated	TDG	\$ 618.85	91.9% - 309.3%	49,531.6	5,103.0	2,123.0	41.6%	16.9%	9.71x	10.01x	23.3x	21.9x	
Woodward, Inc.	WWD	\$ 121.53	94.2% - 261.3%	8,632.7	2,495.7	441.1	17.7%	17.9%	3.46x	3.56x	19.6x	19.7x	
		<i>Mean</i>	69.6% - 258.6%	\$ 10,899.5	\$ 3,207.8	\$ 571.2	11.4%	69.9%	2.15x	2.34x	28.3x	16.9x	
		<i>Median</i>	65.7% - 230.6%	\$ 1,605.9	\$ 837.0	\$ 99.1	12.3%	18.1%	1.27x	1.33x	11.5x	14.5x	

Market value equals price per share times number of diluted shares outstanding. Enterprise value equals market value plus debt, preferred stock, and non controlling interests, less cash.

Sources of information: S&P Capital IQ.

SELECTED PUBLIC COMPANY TRADING DATA

Selected Companies Review

(\$ in thousands, except per security)

Company	Ticker	Market Statistics			Metrics				Valuation Benchmarks				
		Closing Price	% of 52-week	Enterprise	Revenue	EBITDA	EBITDA	EBITDA	EV / Revenue		EV / EBITDA		
		31-Dec-20	High-Low	Value	LTM	LTM	LTM Margin	2022 E Growth	LTM	2021 E	LTM	2021 E	
MRO, Parts & Supply Chain													
AAR Corp.	AIR	\$ 36.22	75.5% - 423.1%	\$ 1,473.2	\$ 1,774.0	\$ 55.9	3.2%	na	0.83x	0.84x	26.4x	12.3x	
HEICO Corporation	HEI	\$ 132.32	95.9% - 254.4%	17,546.3	1,787.0	465.7	26.1%	9.4%	9.82x	8.87x	37.7x	31.6x	
MTU Aero Engines AG	XTRA:MTX	\$ 261.04	73.8% - 218.3%	13,564.2	4,910.1	572.8	11.7%	17.8%	2.76x	2.51x	23.7x	15.3x	
Singapore Technologies (ST Aerospace)	SGX:S63	\$ 2.89	86.4% - 137.4%	10,312.0	5,687.5	692.8	12.2%	8.7%	1.81x	1.75x	14.9x	13.5x	
TAT Technologies Ltd.	TATT	\$ 4.53	61.1% - 151.0%	28.6	89.2	3.1	3.5%	na	0.32x	na	9.2x	na	
VSE Corporation	VSEC	\$ 38.41	91.5% - 277.7%	701.2	706.9	82.6	11.7%	18.1%	0.99x	1.02x	8.5x	8.5x	
		<i>Mean</i>	<i>80.7% - 243.7%</i>	<i>\$ 7,270.9</i>	<i>\$ 2,492.4</i>	<i>\$ 312.2</i>	<i>11.4%</i>	<i>13.5%</i>	<i>2.76x</i>	<i>3.00x</i>	<i>20.0x</i>	<i>16.2x</i>	
		<i>Median</i>	<i>80.9% - 236.4%</i>	<i>\$ 5,892.6</i>	<i>\$ 1,780.5</i>	<i>\$ 274.2</i>	<i>11.7%</i>	<i>13.6%</i>	<i>1.40x</i>	<i>1.75x</i>	<i>19.3x</i>	<i>13.5x</i>	
Aviation Services													
AerCap Holdings N.V.	AER	\$ 45.58	70.3% - 437.4%	\$ 33,961.1	\$ 4,719.0	\$ 2,512.0	53.2%	3.3%	7.20x	7.88x	13.5x	9.3x	
Air Lease Corporation	AL	\$ 44.42	88.9% - 528.2%	19,057.4	2,074.9	na	na	16.0%	9.18x	8.36x	na	9.0x	
Air T, Inc.	AIRT	\$ 24.90	58.0% - 278.2%	171.8	211.5	5.8	2.7%	na	0.81x	na	29.6x	na	
Air Transport Services Group, Inc.	ATSG	\$ 31.34	98.3% - 237.4%	3,323.7	1,574.6	497.4	31.6%	4.6%	2.11x	1.92x	6.7x	6.2x	
Atlas Air Worldwide Holdings, Inc.	AAWW	\$ 54.54	79.0% - 364.3%	3,573.4	3,025.7	697.8	23.1%	3.9%	1.18x	1.12x	5.1x	5.2x	
CAE Inc.	TSX:CAE	\$ 27.68	84.0% - 247.3%	9,764.5	2,368.7	438.8	18.5%	17.5%	4.12x	3.86x	22.3x	16.2x	
Gogo Inc.	GOGO	\$ 9.63	74.8% - 724.1%	2,026.4	804.7	147.3	18.3%	19.1%	2.52x	6.72x	13.8x	17.0x	
		<i>Mean</i>	<i>79.0% - 402.4%</i>	<i>\$ 10,268.3</i>	<i>\$ 2,111.3</i>	<i>\$ 716.5</i>	<i>24.6%</i>	<i>10.7%</i>	<i>3.88x</i>	<i>4.98x</i>	<i>15.1x</i>	<i>10.5x</i>	
		<i>Median</i>	<i>79.0% - 364.3%</i>	<i>\$ 3,573.4</i>	<i>\$ 2,074.9</i>	<i>\$ 468.1</i>	<i>20.8%</i>	<i>10.3%</i>	<i>2.52x</i>	<i>5.29x</i>	<i>13.6x</i>	<i>9.1x</i>	

Market value equals price per share times number of diluted shares outstanding. Enterprise value equals market value plus debt, preferred stock, and non controlling interests, less cash.

Sources of information: S&P Capital IQ.

SELECTED PUBLIC COMPANY TRADING DATA

Selected Companies Review

(\$ in thousands, except per security)

Company	Ticker	Market Statistics			Metrics				Valuation Benchmarks				
		Closing Price	% of 52-week	Enterprise	Revenue	EBITDA	EBITDA	EBITDA	EV / Revenue		EV / EBITDA		
		31-Dec-20	High-Low	Value	LTM	LTM	LTM Margin	2022 E Growth	LTM	2021 E	LTM	2021 E	
Airframe & Engine OEM													
Airbus SE	ENXTPA:AIR	\$ 109.82	64.4% - 186.6%	\$ 92,049.6	\$ 63,963.1	\$ (925.3)	-1.4%	22.0%	1.44x	1.44x	na	11.9x	
The Boeing Company	BA	\$ 214.06	61.2% - 240.5%	155,285.1	60,765.0	(2,212.0)	-3.6%	58.6%	2.56x	1.99x	na	24.7x	
Bombardier Inc.	TSX:BBD.B	\$ 0.38	24.4% - 184.6%	13,243.7	14,831.0	113.0	0.8%	23.6%	0.89x	2.29x	117.2x	20.1x	
Dassault Aviation SA	ENXTPA:AM	\$ 1,097.25	75.3% - 143.8%	4,541.5	7,823.5	781.0	10.0%	-5.6%	0.58x	0.56x	5.8x	5.8x	
Embraer S.A.	BOVSPA:EMBR3	\$ 1.70	43.0% - 153.4%	4,016.9	1,260.4	13.4	1.1%	61.9%	3.19x	0.93x	300.6x	13.1x	
General Electric Company	GE	\$ 10.80	81.4% - 197.1%	157,305.6	83,928.0	7,206.0	8.6%	26.6%	1.87x	1.95x	21.8x	16.6x	
Rolls-Royce Holdings plc	LSE:RR.	\$ 1.52	15.6% - 171.5%	18,826.2	17,988.2	(1,718.6)	-9.6%	39.0%	1.05x	1.15x	na	10.8x	
Safran SA	ENXTPA:SAF	\$ 141.83	76.1% - 226.9%	65,284.2	24,580.2	4,554.4	18.5%	23.9%	2.66x	3.05x	14.3x	15.6x	
Textron Inc.	TXT	\$ 48.33	93.8% - 238.5%	13,540.5	12,019.0	1,070.0	8.9%	15.0%	1.13x	1.07x	12.7x	10.5x	
		<i>Mean</i>	<i>59.5% - 193.7%</i>	<i>\$ 58,232.6</i>	<i>\$ 31,906.5</i>	<i>\$ 986.9</i>	<i>3.7%</i>	<i>29.4%</i>	<i>1.71x</i>	<i>1.60x</i>	<i>78.7x</i>	<i>14.4x</i>	
		<i>Median</i>	<i>64.4% - 186.6%</i>	<i>\$ 18,826.2</i>	<i>\$ 17,988.2</i>	<i>\$ 113.0</i>	<i>1.1%</i>	<i>23.9%</i>	<i>1.44x</i>	<i>1.44x</i>	<i>18.1x</i>	<i>13.1x</i>	
Defense Contractors													
AeroVironment, Inc.	AVAV	\$ 86.90	87.1% - 193.1%	\$ 1,763.0	\$ 377.2	\$ 56.6	15.0%	8.8%	4.67x	3.87x	31.1x	22.4x	
BAE Systems plc	LSE:BA.	\$ 6.67	72.7% - 123.5%	26,288.3	23,291.3	2,412.0	10.4%	5.3%	1.13x	0.90x	10.9x	7.0x	
Elbit Systems Ltd.	TASE:ESLT	\$ 131.61	74.8% - 112.8%	6,922.2	4,606.3	497.3	10.8%	na	1.50x	1.45x	13.9x	na	
General Dynamics Corporation	GD	\$ 147.75	77.7% - 146.9%	55,991.1	38,217.0	5,149.0	13.5%	6.8%	1.47x	1.44x	10.9x	10.8x	
Herkules S.A.	HRS	\$ 0.34	60.2% - 301.2%	35.2	36.3	8.4	23.2%	na	0.97x	na	4.2x	na	
Huntington Ingalls Industries, Inc.	HII	\$ 170.48	60.9% - 124.9%	8,625.2	9,016.0	1,019.0	11.3%	14.2%	0.96x	0.94x	8.5x	11.5x	
Kratos Defense & Security Solutions, Inc.	KTOS	\$ 27.43	96.1% - 548.6%	3,395.3	726.4	57.7	7.9%	26.2%	4.67x	3.92x	58.8x	36.2x	
L3Harris Technologies, Inc.	LHX	\$ 189.02	81.8% - 133.1%	46,535.1	24,036.0	4,503.0	18.7%	5.7%	1.94x	2.40x	10.3x	11.4x	
Leonardo S.p.a.	BIT:LDO	\$ 7.23	49.8% - 147.6%	11,595.5	16,058.0	1,723.8	10.7%	9.3%	0.72x	0.67x	6.7x	5.8x	
Lockheed Martin Corporation	LMT	\$ 354.98	80.2% - 133.4%	108,715.3	64,244.0	9,706.0	15.1%	5.5%	1.69x	1.60x	11.2x	10.2x	
Mercury Systems, Inc.	MRCY	\$ 88.06	91.5% - 168.6%	4,759.1	824.9	150.6	18.3%	20.5%	5.77x	5.11x	31.6x	23.1x	
Northrop Grumman Corporation	NOC	\$ 304.72	79.1% - 115.7%	62,801.7	35,308.0	4,372.0	12.4%	4.9%	1.78x	1.68x	14.4x	11.8x	
Raytheon Technologies Corporation	RTX	\$ 71.51	45.1% - 148.8%	134,025.5	83,559.0	12,234.0	14.6%	18.5%	1.60x	1.97x	11.0x	12.7x	
Thales S.A.	ENXTPA:HO	\$ 91.62	74.9% - 142.7%	24,569.7	20,214.3	2,023.7	10.0%	11.3%	1.22x	1.11x	12.1x	8.0x	
		<i>Mean</i>	<i>73.7% - 181.5%</i>	<i>\$ 35,430.2</i>	<i>\$ 22,893.9</i>	<i>\$ 3,136.7</i>	<i>13.7%</i>	<i>11.4%</i>	<i>2.15x</i>	<i>2.08x</i>	<i>16.8x</i>	<i>14.2x</i>	
		<i>Median</i>	<i>76.3% - 144.8%</i>	<i>\$ 18,082.6</i>	<i>\$ 18,136.1</i>	<i>\$ 1,873.8</i>	<i>12.9%</i>	<i>9.0%</i>	<i>1.55x</i>	<i>1.60x</i>	<i>11.1x</i>	<i>11.5x</i>	

Market value equals price per share times number of diluted shares outstanding. Enterprise value equals market value plus debt, preferred stock, and non controlling interests, less cash.

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